



|                 |               |
|-----------------|---------------|
| WEAR            | <b>NORMAL</b> |
| CONTAMINATION   | <b>NORMAL</b> |
| FLUID CONDITION | <b>NORMAL</b> |

Area

**FLEET**

Machine Id

**VOLVO 2327178 (S/N 4V4NC9EH3RN654446)**

Component

**Diesel Engine**

Fluid

**PETRO CANADA DURON SHP 10W30 (42 QTS)**

**RECOMMENDATION**

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|----------|----------|
| Sample Number  |     | Client Info |           | <b>PCA0128377</b>  | ---      | ---      |
| Sample Date    |     | Client Info |           | <b>20 Jun 2024</b> | ---      | ---      |
| Machine Age    | mls | Client Info |           | <b>22244</b>       | ---      | ---      |
| Oil Age        | mls | Client Info |           | <b>22244</b>       | ---      | ---      |
| Filter Age     | mls | Client Info |           | <b>22244</b>       | ---      | ---      |
| Oil Changed    |     | Client Info |           | <b>Changed</b>     | ---      | ---      |
| Filter Changed |     | Client Info |           | <b>Changed</b>     | ---      | ---      |
| Sample Status  |     |             |           | <b>NORMAL</b>      | ---      | ---      |

**WEAR**

Metal levels are typical for a new component breaking in.

|              |        |             |      |              |     |     |
|--------------|--------|-------------|------|--------------|-----|-----|
| Iron         | ppm    | ASTM D5185m | >100 | <b>39</b>    | --- | --- |
| Chromium     | ppm    | ASTM D5185m | >20  | <b>&lt;1</b> | --- | --- |
| Nickel       | ppm    | ASTM D5185m | >2   | <b>2</b>     | --- | --- |
| Titanium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | --- | --- |
| Silver       | ppm    | ASTM D5185m | >2   | <b>25</b>    | --- | --- |
| Aluminum     | ppm    | ASTM D5185m | >25  | <b>34</b>    | --- | --- |
| Lead         | ppm    | ASTM D5185m | >40  | <b>1</b>     | --- | --- |
| Copper       | ppm    | ASTM D5185m | >330 | <b>16</b>    | --- | --- |
| Tin          | ppm    | ASTM D5185m | >15  | <b>4</b>     | --- | --- |
| Vanadium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | --- | --- |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | --- | --- |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | --- | --- |

**CONTAMINATION**

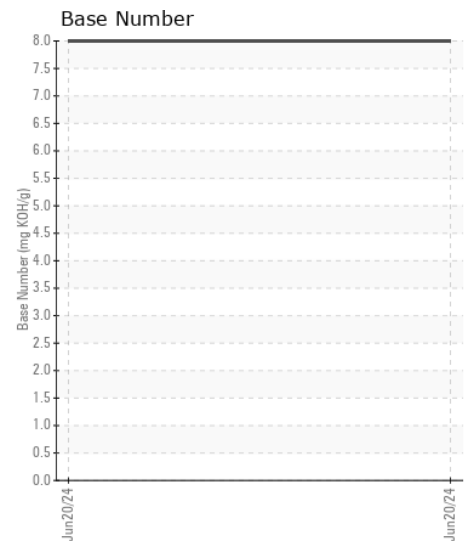
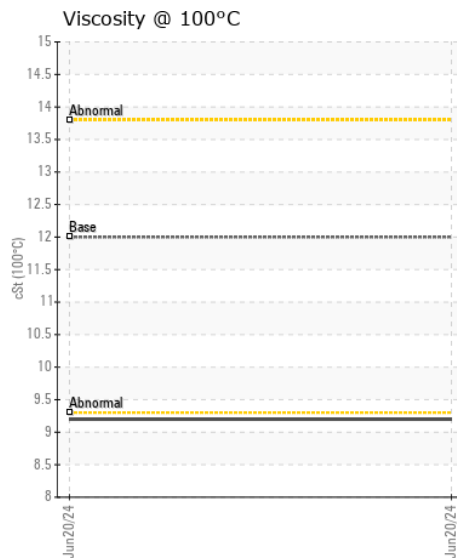
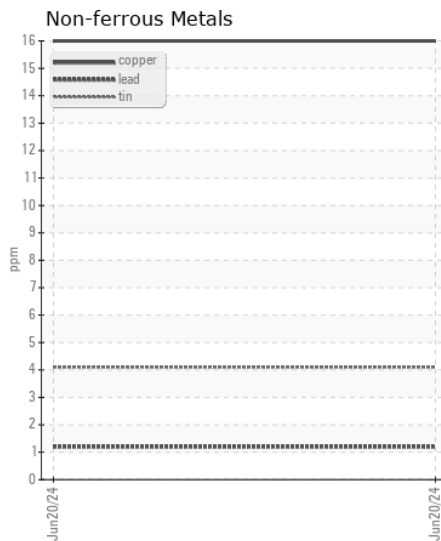
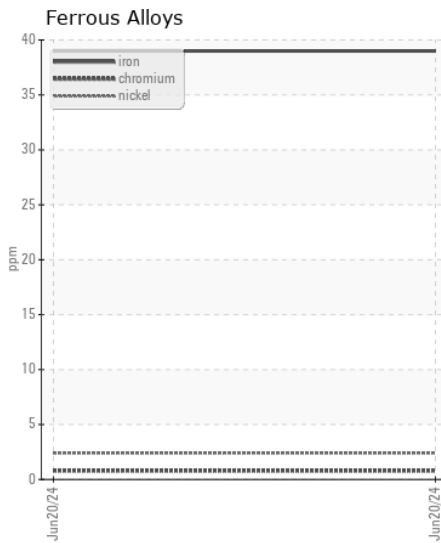
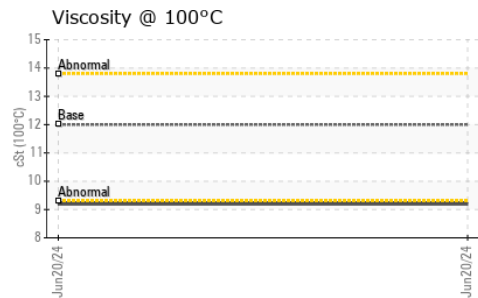
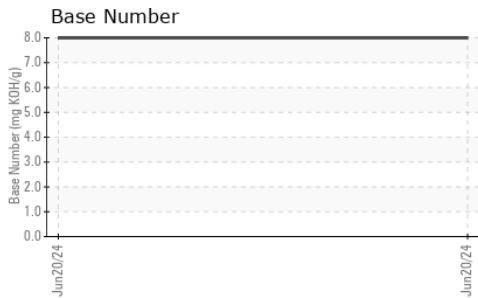
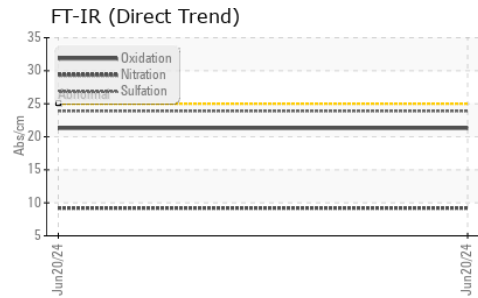
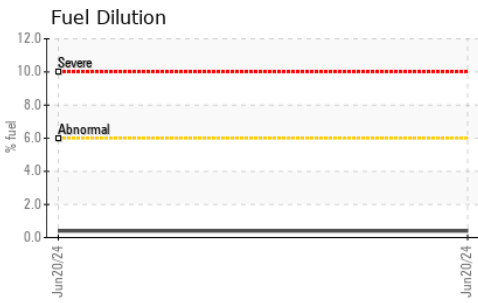
Fuel content negligible. There is no indication of any contamination in the oil.

|                  |          |             |       |              |     |     |
|------------------|----------|-------------|-------|--------------|-----|-----|
| Silicon          | ppm      | ASTM D5185m | >25   | <b>60</b>    | --- | --- |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>93</b>    | --- | --- |
| Fuel             | %        | ASTM D3524  | >6.0  | <b>0.4</b>   | --- | --- |
| Water            |          | WC Method   | >0.2  | <b>NEG</b>   | --- | --- |
| Glycol           |          | WC Method   |       | <b>NEG</b>   | --- | --- |
| Soot %           | %        | *ASTM D7844 | >3    | <b>0.2</b>   | --- | --- |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>9.2</b>   | --- | --- |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>23.9</b>  | --- | --- |
| Silt             | scalar   | *Visual     | NONE  | <b>NONE</b>  | --- | --- |
| Debris           | scalar   | *Visual     | NONE  | <b>NONE</b>  | --- | --- |
| Sand/Dirt        | scalar   | *Visual     | NONE  | <b>NONE</b>  | --- | --- |
| Appearance       | scalar   | *Visual     | NORML | <b>NORML</b> | --- | --- |
| Odor             | scalar   | *Visual     | NORML | <b>NORML</b> | --- | --- |
| Emulsified Water | scalar   | *Visual     | >0.2  | <b>NEG</b>   | --- | --- |

**FLUID CONDITION**

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

|                  |          |             |       |             |     |     |
|------------------|----------|-------------|-------|-------------|-----|-----|
| Sodium           | ppm      | ASTM D5185m |       | <b>2</b>    | --- | --- |
| Boron            | ppm      | ASTM D5185m | 2     | <b>230</b>  | --- | --- |
| Barium           | ppm      | ASTM D5185m | 0     | <b>2</b>    | --- | --- |
| Molybdenum       | ppm      | ASTM D5185m | 50    | <b>123</b>  | --- | --- |
| Manganese        | ppm      | ASTM D5185m | 0     | <b>5</b>    | --- | --- |
| Magnesium        | ppm      | ASTM D5185m | 950   | <b>631</b>  | --- | --- |
| Calcium          | ppm      | ASTM D5185m | 1050  | <b>1514</b> | --- | --- |
| Phosphorus       | ppm      | ASTM D5185m | 995   | <b>693</b>  | --- | --- |
| Zinc             | ppm      | ASTM D5185m | 1180  | <b>872</b>  | --- | --- |
| Sulfur           | ppm      | ASTM D5185m | 2600  | <b>2494</b> | --- | --- |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25   | <b>21.3</b> | --- | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896  |       | <b>8.0</b>  | --- | --- |
| Visc @ 100°C     | cSt      | ASTM D445   | 12.00 | <b>9.2</b>  | --- | --- |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : PCA0128377 **Received** : 25 Jun 2024  
**Lab Number** : 06219469 **Tested** : 28 Jun 2024  
**Unique Number** : 11097666 **Diagnosed** : 28 Jun 2024 - Jonathan Hester  
**Test Package** : FLEET ( Additional Tests: FuelDilution, PercentFuel )

To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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